HWT Roundup

The NOAA Hazardous Weather Testbed: A Summary of Activities Supporting Successful R2O Transitions in 2016 and Plans for 2017

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Gerard1, G. Garfield3,4, I. Jirak4, L. Rothfusz1,R. Schneider4 and S. Weiss4
1. NOAA/OAR National Severe Storms Laboratory, Norman, OK
2. 2NOAA/NWS/Weather Forecast Office, Norman, OK
3. 3OU/Cooperative Institute for Mesoscale Meteorological Studies, Norman, OK
4. 4NOAA/NWS/NCEP Storm Prediction Center, Norman, OK

Spring Experiments in the NOAA Hazardous Weather Testbed (HWT) are traditionally organized into the Experimental Forecasting Program (EFP) and the Experimental Warning Program (EWP). Together, the two programs develop, test, and evaluate cutting-edge scientific and technological advancements for subsequent transfer to the NWS to support improvements in forecasts and warnings for hazardous convective weather. To accelerate this process, the HWT pioneered a highly successful R2O/O2R model that brings together forecasters, research scientists including NWP developers, university faculty, and cognitive/social scientists within unique real-time simulated operational environments. This successful testbed model has been subsequently transferred for use at other NCEP Testbeds at the WPC and AWC.
  HWT experimental operating periods are focused primarily during the spring and early summer when severe weather frequency peaks across the CONUS. HWT planning is informed by operational challenges provided by SPC, WFO Norman, and other NWS forecasters, scientific insights of NSSL scientists, and long-term collaborations with national and international partners. An overarching theme is the creation of reliable hazardous weather information, starting days out and culminating in increasingly updated, high-temporal resolution probabilistic forecasts and warnings of severe weather (e.g., the emerging "Forecasting a Continuum of Environmental Threats" or FACETs), consistent with the NWS Weather-Ready Nation vision. Each year, the HWT builds upon new knowledge gained from annual experiments to incrementally transfer concepts and tools for operational forecaster use. Focus areas for the 2017 Spring Experiment include the use and assessment of convection-allowing models/ensembles to inform NCEP/EMC operational model development, generation and utility of probabilistic hazard information, and evaluation of newly available GOES-16 data.   Evaluation activities include innovative scale-appropriate objective metrics and subjective feedback to assess the utility of new tools, models, datasets, and displays, and provide information on performance, ideas for improvements, and readiness for advancement in the R2O process. In recent years, the HWT has included social scientist participation to explore impacts of more frequent and newer experimental datasets on decision-making by both forecasters and users. This integration of social science will continue this year in both the EFP and EWP. Finally, interactions continue between the HWT, HMT, DTC and AWT through staff participation in related testbed experiments.